

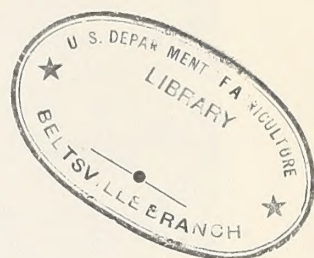
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UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Research Service

## AN INSECT TRAP

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The trap (fig. 1) described below was developed for population and ecological studies of the white pine weevil. The traps were used to collect weevils as they moved up the stems of white pines after emerging from hibernation. Since many other insect species were collected in the trap, it is thought that the trap may have wider application. The traps have been used on trees varying from  $\frac{1}{2}$  inch to 5 inches in diameter at the trapping point.

The trap consists of two parts: (1) A canopy of clear acetate sheeting and (2) a platform of waxed jute tag (fig. 2). Before the traps can be constructed, the diameter of the plants must be taken at the point where the traps are to be placed. This has been done with a diameter tape, measuring to the nearest  $\frac{1}{10}$  inch.

The canopy is cut directly from 0.005-inch acetate sheeting, without preliminary marking, by using sharp dividers or a scribe. If the scribe marks are sufficiently deep, bending the plastic along the scribed lines will produce a clean break.

Dividers are used to lightly scribe the dimensions of the platforms on the jute tag. (Heavy scribing of the inner dimension will cause the platform to collapse in wet weather.) Three concentric circles are marked off. The innermost circle has a diameter equal to that of the stem on which the trap is to be placed. The diameter of the second circle is  $\frac{1}{8}$  inch larger than the first. When cut out, this provides space between the platform and stem for the insect to enter the trap. The outer circle is drawn to provide a 1-inch platform. The number and width of the flaps will depend on the size of the trap. They vary from two  $\frac{1}{4}$ -inch flaps on the smaller platforms to six  $\frac{1}{2}$ -inch flaps on the larger platforms.

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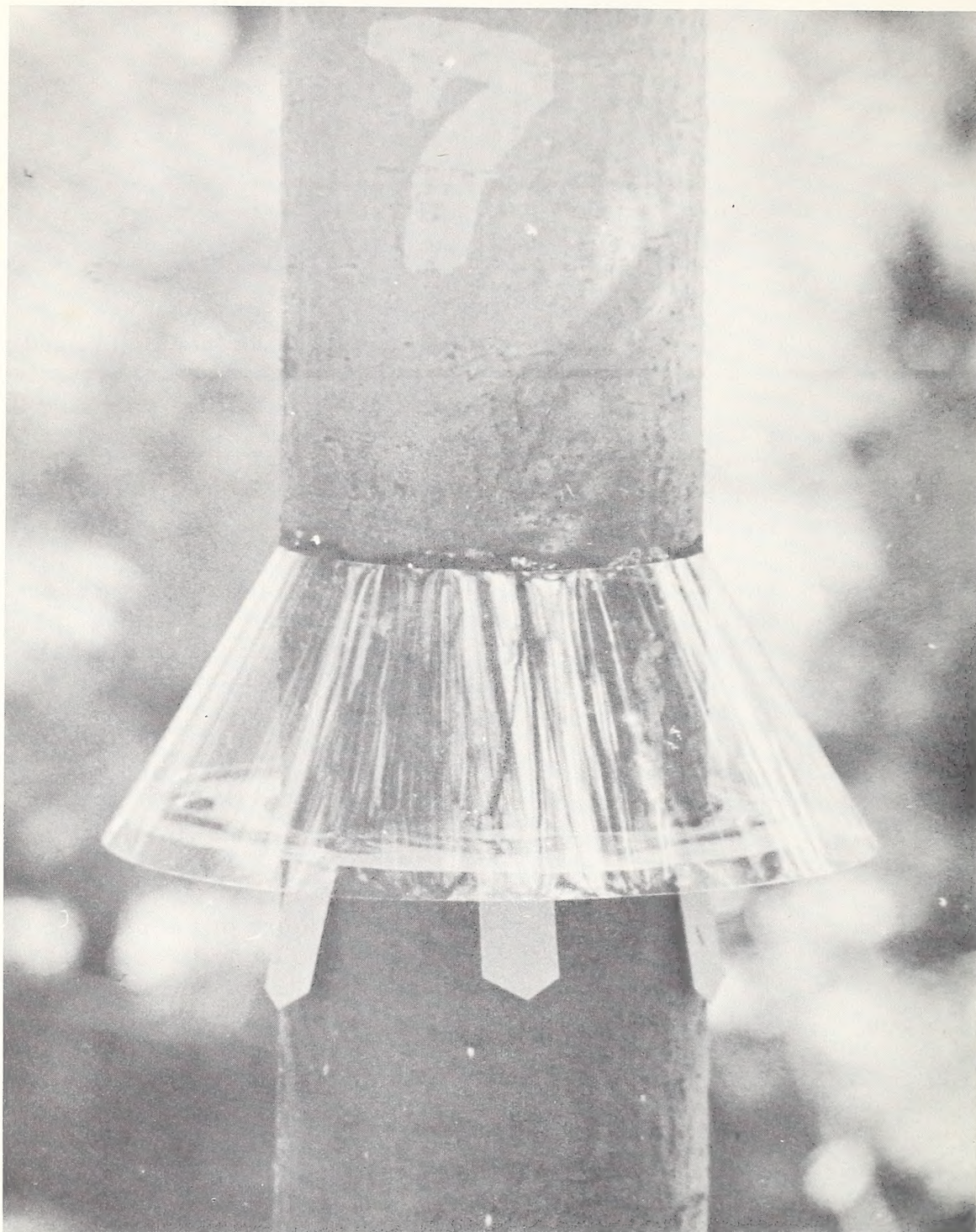


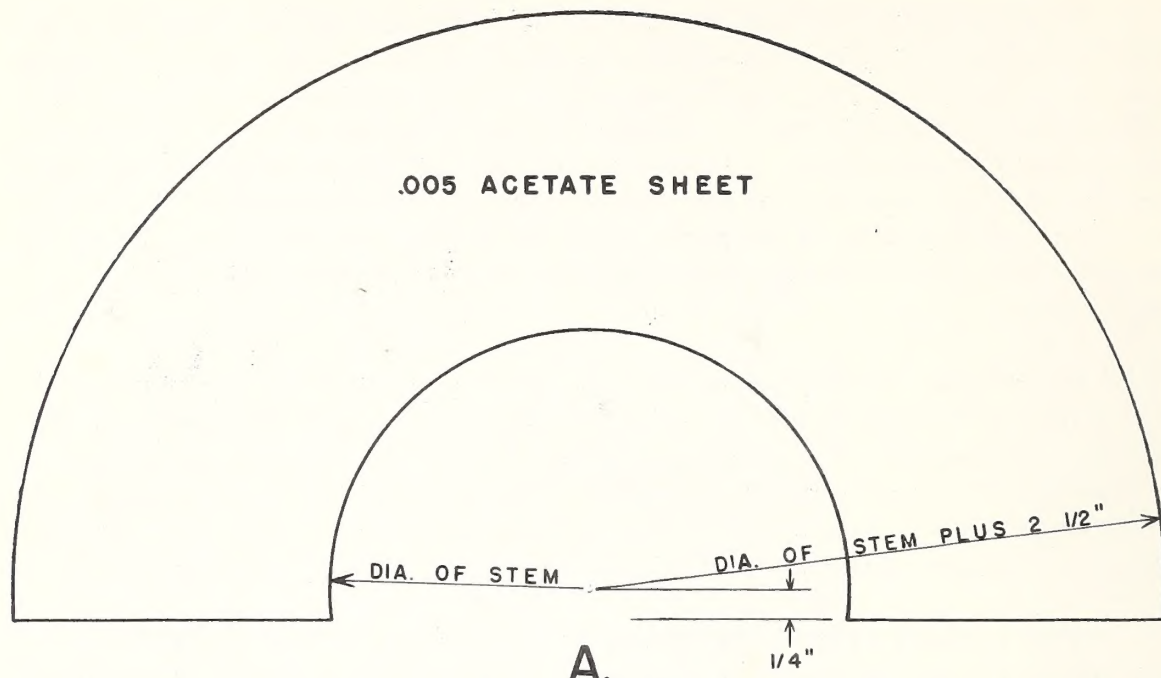
FIGURE 1.--An insect trap in place on a white pine. The snaky-looking material on the platform is tanglefoot, applied with a cake decorator.



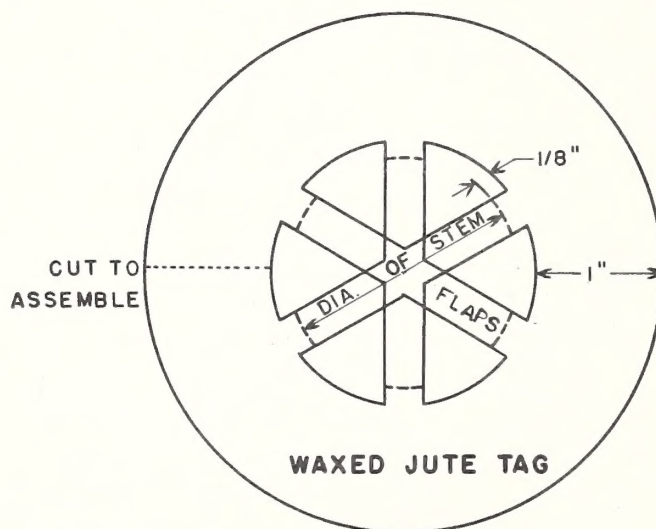
To assemble the trap, the platform is cut along the dotted lines as shown in figure 2(B), and the flaps are bent down. Then the platform is placed around the stem and drawn snug. The cut ends are butt-joined and stapled together with two staples, using stapling pliers. The flaps are stapled to the stem, using a dismounted conventional paper stapler. To insure proper fitting of the plastic canopy, care should be taken to see that the platform is perpendicular to the axis of the stem. Tangle-foot is then applied to the upper surface of the platform with a cake decorator.

The plastic canopy is pulled tightly around the stem and platform with the lower edge about 1/4 inch below the platform. The ends of the canopy are lapped. The joint where they lap is secured by applying ethyl acetate with a camel-hair brush along the joint. If the air temperature is above 50° F. the joint will hold in 4 or 5 seconds. Below 50°, however, increasing difficulty will be experienced in making a bond.

Where heavy or prolonged rain is to be encountered, additional precautions must be taken to insure a continuous tight union of stem and plastic; otherwise the plastic may expand and loosen. Caulking cord wrapped around the stem has been found to be satisfactory for holding the plastic tight.



A.  
PLASTIC CANOPY



B.  
JUTE TAG PLATFORM

FIGURE 2.--General plans for the two parts of the insect trap. The trap, used successfully in studies of the white pine weevil, may be useful for studying other insects too.



